133° 34' W
62° 23' N

REPORT ON AN

AIRBORNE GEOPHYSICAL SURVEY

in the

MABEL-EVA-ALICE AREA

YUKON, CANADA

for

M.P.H. CONSULTING LIMITED

FU 1-20
YA51045-YA51064

CONDUCTED BY

GEOTERREX LIMITED
Project 92-106

090904

July 25 - Aug 9, 1981

105-K-5

OTTAWA, ONTARIO
November 1981

P. NORGAARD
Geophysicist.

geoterrex ltd.

This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $ 2.000.

P. Watson

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

From: Mining Recorder at Whitehorse File No. _____

To: Supervising Mining Recorder - Whitehorse, Y.T.

FOR ACTION:

_____ New Application for Lease to Prospect: Name _____

_____ Renewal Appl'n Lease to Prospect: Name _____ No. _____

_____ Affidavit of Expenditure on Placer Lease: Name _____ No. _____

_____ Assignment of Prospecting Lease No. _____

From _____ To _____

_____ Grouping Appl'n under Sec. 52(2) Yukon Placer Mining Act: Owner _____

_____ Diamond Drill Logs: _____

Owner: _____ Claim Sheet No. _____

✓ Quartz Assessment Report M.P.H. Consulting

Claims: FU 1-20 Claim Sheet No. 105-K-5

Type of Report: Airborne Geophysical Survey

Submitted By: M.P.H Consulting

Claims work performed on: FU1-20

$ Req. for renewal application: $200

Signature _____

Date 27-11-81

Reply action

Date Ref

#38

090904

Signature _____

Date _____

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)

I (Name) William E. Brereton	Occupation Consultant
(Postal Address) 706 - 141 Adelaide St. W., Toronto M5H 3L9	OFFICE DATE STAMP

MAKE OATH AND SAY, THAT:

1. I am the owner, or agent of the owner, of the mineral claim(s) to which reference is made herein.
2. I have done, or caused to be done, work on the following mineral claim(s):

(Here list claims on which work was actually done by number and name)

FU 1 - 20 inclusive

situated at north of Rose Mountain Claim Sheet No. 105 K 5

in the Whitehorse Mining District, to the value of at least $2,000.00

dollars, since the 25th day of July 19 81,

to represent the following mineral claims ~~under the authority of Grouping Certificate No.~~

(Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested).

FU 1 - 20 incl. YA 51045 - YA51064 incl. 1 year renewal

090904

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

Work period - July 25th - August 9th, 1981
Nature of work - airborne magnetics and electromagnetics
(Geoterrex EM 33-3 system)
Report to be forwarded by November 15, 1981

TABLE OF CONTENTS

geoterrex ltd.

I. INTRODUCTION

On July 25th to August 18th, 1981 Geoterrex Limited conducted an airborne electromagnetic and magnetic geophysical survey in the Mabel-Eva-Alice Area, Yukon on behalf of M.P.H. Consulting Limited.

This report outlines the survey procedures, data processing, compilation and interpretation of the electromagnetic and magnetic data.

This outlined section of the surveyed area consists of segments from eleven flight lines.

II. INSTRUMENTATION

The survey was conducted with a Squirrel AS-350B helicopter, registered as C-FTPH, supplied by Peace Helicopters Limited of Grande Prairie, Alberta.

The following items of geophysical equipment were utilized during the survey:

- a Geonics EM-33-3 electromagnetic system having two coil orientations and being capable of operating at three frequencies (385 Hz and 3690 Hz for the vertical coaxial coils and 2860 Hz for the horizontal co-planar coils). The transmitter and receiver coil pairs are separated by 17.8 feet, housed in a rigid "bird" carried 100 feet below the helicopter.

- a Varian V-85 proton precession magnetometer system consisting of a sensor coil mounted in a "bird" flown 45 feet below the helicopter.

- a Barringer eight channel analogue chart recorder and five fiducial pens to record the survey data.

- a Madacs digital acquisition system.

- a Sperry radar altimeter consisting of an antenna, a power supply and height indicator.

- various racks necessary to mount the instruments.

- a magnetic ground station consisting of a Geometrics magnetometer, a detector and an analogue chart recorder.

The altitude of the electromagnetic "bird" was normally maintained at 100 feet above the ground surface.

III. PERSONNEL

The following personnel were involved in the performance of this survey:

A. Field Operation

Pilot	J. Pridie c/o Peace Helicopters Ltd Box 6757, Stn 'D' Calgary, Alta
Navigator/Electronic Technician	S. Kiss 13 Whiting Street. P.O. Box 386 Artarmon, 2064 NSW Australia
Data Compiler	R. Reyes 2870 Cedarwood Dr. # 716 Ottawa, Ontario
Project Manager/Geophysicist	F. Kiss 70 Aero Drive Ottawa, Ontario

B. Office Compilation

Data	P. Tallyhoe 1962 Navaho Dr. Ottawa, Ontario
Drafting	R.Schingh 3004 DuMaurier Ave. Ottawa, Ontario
Geophysics	B. Konopacki 117 Second Ave. # 3 Ottawa, Ontario
	M. Carson 34 Edina Street Ottawa, Ontario

P. Norgaard
2 Rebecca Cres.
Ottawa, Ontario

M.P.H. Consultants Limited was represented in the field by Bill Brereton, geologist.

IV. SCHEDULE OF FIELD OPERATIONS

July 25 Helicopter departs from Ft. Simpson, N.W.T. for Ross River, Yukon. Truck and crew with "birds" depart for Ross River.

July 28 Truck arrives in Ross River. EM calibrations and test flights.

July 29 - August 4 Production flights 1,2,3,4, in Mabel-Eva-Alice area. "Bird" hit tree on flight 4.

August 5 Repair of "bird" skirt. Production flight 5 in Mabel-Eva-Alice area.

August 6-7 Production flights 6 and 7 in Mabel-Eva-Alice area. More flights in other assigned areas.

August 8 Test flight with second "bird". Removal of equipment from helicopiter. Review of data.

August 9 Helicopter demobilizing from Ross River, Yukon to Grande Prairie Alberta. Equipment packed in truck for transport.

Truck and crew demobilizing to Whitehore, Yukon.

August 10-18 Truck and crew depart from Whitehore, Yukon to Ottawa.

V. CLAIMS COVERED

A total of 20 claims are included in the survey area. They are:

Claim No.	Claim No.
YA 51050 (FU 6)	YA 51060 (FU 16)
YA 51048 (FU 4)	YA 51062 (FU 18)
YA 51046 (FU 2)	YA 51064 (FU 20)
YA 51049 (FU 5)	
YA 51047 (FU 3)	
YA 51045 (FU 1)	
YA 51051 (FU 7)	
YA 51053 (FU 9)	
YA 51055 (FU 11)	
YA 51057 (FU 13)	
YA 51059 (FU 15)	
YA 51061 (FU 17)	
YA 51063 (FU 19)	
YA 51052 (FU 8)	
YA 51054 (FU 10)	
YA 51056 (FU 12)	
YA 51058 (FU 14)	

VI. MILEAGE

Total mileage in the requested section of the Mabel-Eva-Alice area was 12.3 kilometres (approximately 7.7 miles). Lines were spaced 200 metres (1/8 mile) apart and flown in a general north-east-southwest direction.

VII. PROCEDURES AND DATA COMPILATION

The base of operations was Ross River, Yukon.

The flying procedure entailed following a pre-determined flight path from aerial photomosaics at various scales from 1:5,000 to 1:10,000 and continuously photographing the aircraft's actual position. The operator recorded lines, direction of flight and the initial and final fiducial numbers of each flight line on a flight log. Upon completion of the flight, the 35mm tracking film was developed, from which the data compiler then checked the track flown by the aircraft using the photomosaics.

For any given point, the appropriate fiducial number was placed on the photo laydown and the points joined to produce the actual flight path.

A. Electromagnetic Anomaly Map

The electromagnetic results are presented in the form of an Electromagnetic Anomaly Map. The flight lines were plotted on a topographic base at a scale of 1:10,000. The electromagnetic anomalies were then plotted in correct lateral position on these flight lines.

Zones of anomalous conductivity have been delineated.

First a box was drown which represents the width of the anomaly at one-half the maximum amplitude of the in-phase component. A symbol is then placed indicating the positions of the anomaly peak. This peak is left unshaded if there is no associated magnetic anomaly and is shaded if there is a magnetic correlation. The in-phase and quadrature amplitudes of the anomaly measured in ppm from the Low Frequency channels (385 Hz) are indicated as a proper fraction to the upper left of the anomaly box. The altitude of the helicopter in feet is shown to the upper right of the anomaly box and the amplitude, in gammas, of the associated magnetic anomaly (if any) is seen at the lower right. Offset magnetic anomalies are indicated by an arrow in the direction of the offset.

B. Magnetic Contour Map

The magnetic data are presented in the form of a magnetic contour map. The magnetic values were transcribed onto the flight lines, and the contoured at an interval of ten gammas.

VIII. RESULTS OF SURVEY

Since there are only three responses in this selected area, each one has been noted and discussed.

Zone numbers, line numbers and fiducial numbers are included to facilitate reference to the original records and plan map. The letter 'M' (e.g. M-1) refers simply to the Mabel-Eva-Alice area.

The order of zone number bears no relation to the relative importance of the conductor.

Zone M-1 Priority 3

Line 30(1)S Flight 3 Fiducial 61157 Ratio -0.5/1.0 Altitude 230

The anomaly is probably reflecting a magnetite conductor. This is supported by its characteristics and its magnetic correlation. The flight film plots this response in bush.

A low priority followup is recommended.

Zone M-2 Priority 3

Line 29(1)N Flight 3 Fiducial 61580 Ratio 0.5/1.0 Altitude 210

The anomaly is weak and is likely due to a surficial source which has low conductivity. Fitting the anomaly on a homogeneous half space model gives a conductivity of .001 mhos/metres and a near surface depth.

A second possibility could be a deep conductor with low conductivity. The horizontal thin sheet model gives a conductance value of .15 mhos and a possible depth of 220 feet.

The tracking film shows the source is located in bush.

Followup is recommended on a low priority basis.

Zone M-3 Priority 3

Line 24(1)S Flight 3 Fiducial 63702 Ratio 0.5/3 Altitude 230

The anomaly is located near the edge of a river, and may be caused by surficial material.

The anomaly fits the homogeneous half space model which indicates a conductivity value of .001 mhos/metre and a near surface depth.

The response also fits the horizontal thin sheet model (.1 mhos, 100 foot depth).

There is a possible magnetic correlation of 90 gammas.

Low priority followup is recommended.

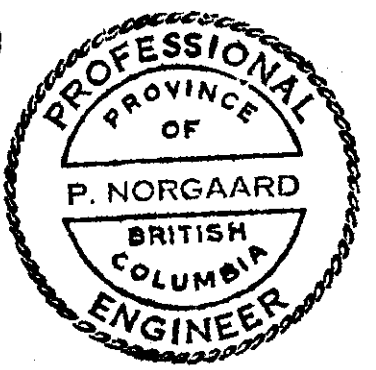
IX. CONCLUSIONS

This area is fairly resistive. The three noted responses have been given a low priority rating, based on the geophysical information. Geological or geochemical considerations will determine whether or not these three anomalies require any further consideration.

The general magnetic trend is north-south up to an east-west tracking possible fault located in the northern portion of the area, around Lines 24 and 25. North of that fault the contours show an east-west trend.

Respectfully submitted,

P. Norgaard



geoterrex ltd.

MPH Consulting Limited

Suite 706, 141 Adelaide St. W.
Toronto, Canada M5H 3L5
(416) 363-6375
(416) 363-4002
Telex 06-219626

December 30, 1981.

Mr. D.F. Jennings,
Mining Recorder,
Room 220, Federal Bldg.,
Whitehorse,
Yukon Territory.

Dear Sir: Re: Mineral Claims FU 1-20

Further to your request of December 9th, please find enclosed a Statement of Qualifications for the author of the Geoterrex report. Regarding the above report, it has been brought to my attention that the scale indication on the maps is incorrect. The correct scale is 1:10,000.

I will forward an expenditure statement once we have received final invoicing from Geoterrex.

Yours very truly,

MPH CONSULTING LIMITED

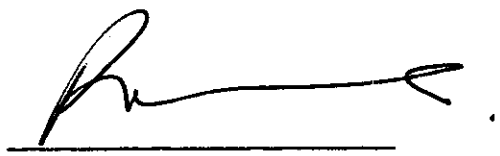
W.E. Brereton, P.Eng.,
Vice President.

WEB/la
Encl.

090904

STATEMENT OF QUALIFICATIONS

I, Peer Norgaard, hereby certify that I am a practicing geophysicist residing at 2 Rebecca Crescent, Ottawa, Ontario. I have been practicing my profession as a geophysicist for the past 22 years and I am a non-resident member of the Association of Professional Engineers of the Province of British Columbia and a member of the Association of Professional Engineers of the Province of Ontario.



090904

MPH Consulting Limited

Suite 706, 141 Adelaide St. W.
Toronto, Canada M5H 3L5
(416) 363-6375
(416) 363-4002
Telex 06-219626

January 13, 1982.

The Mining Recorder,
Room 220,
Federal Building,
Whitehorse,
Yukon Territory.

Dear Sir:

Re: FU 1-20 Mineral Claims

Please find enclosed our statement of expenditures and supporting invoices for the above claims.

Yours very truly,

MPH CONSULTING LIMITED

W.E. Brereton, P.Eng.,
Vice President.

WEB/la
Encl.

090904

STATEMENT OF WORK: Fu 1-20 Claims

A) Airborne Geophysical Surveying (Geoterrex Ltd.)

a) Mabel-Eva-Alice: 345.9 km
Fu 1-20 claims: 13.8 km
Grum Orientation: 31.5 km
Clearwater Orientation: 128.0 km

Total: 519.2 km

Total survey invoice: $42,438.65

Therefore, expenditure attributable to Fu 1-20

$= \frac{13.8}{519.2} \times \$42,438.65$

= $1,127.99

b) Assessment report «Logistics Report»
Fu 1-20 = $865.63

B) Property Location and General Supervision

W.E. Brereton, P.Eng., 2 days @ $275/day = $550

GRAND TOTAL: $2,543.62

= $127.18 per claim

090904

FORM C (Section 53)

Application for a Certificate of Work

Affidavit

I, W. E. Brereton of Toronto, in the Judicial District of York, make oath and say:

That I have done or caused to be done work on the Fr 1-20 mineral claims situate at Rose Mountain in the Whitehorse Mining District, to the value of at least $100 per claim since the 1st day of July, 19 81.

The following is a detailed statement of such work (See attached)

Sworn and subscribed to at Toronto, Ontario this 12th day of January, 1982.

J. R. S. Grant

A Commissioner and Notary Public in and for the Province of Ontario. My commission is for life.

W. E. Brereton

090904

MPH Consulting Limited

No. 0182

141 Adelaide Street West
Toronto, Canada M5H 3L5

Toronto 19

Pay to the Order of Geoterrex Ltd. $ 42438.65

------Forty-two thousand, fortyhundred and thirty eight--------65/100 Dollars

The Royal Bank of Canada
Twenty King Street West
Toronto, Ontario

Per:

⑆06012⑈003⑆ 226⑈270⑈7⑈

Endorsement of attached cheque is sufficient receipt. Detach at perforation

Cheque Number	Invoice Reference	Account Reference	Job. No.	Job Amount	Amount
0182	6798	R 3333	C-449		42,438.65

TOTAL $42,438.65

OK W&B
C-449

R. 3333 B/9/30/81

3M/6/79

090904

INVOICE:

GEOTERREX LIMITED

INTERNATIONAL RESOURCES and ENGINEERING

60 WALKLEY RD.,
OTTAWA, ONT. K1G 3P5
area code (613) - 731-9571
cable address GEOTERREX

TO: M.P.H. Consulting
141 Adelaide Street W.
Suite 1506
TORONTO, Ontario
Attention: Mr. W. Brereton

6911

92-106 DETAILS December 23, 1981

To bill you for amount due upon delivery of the final report and maps:

Interpretation report, EM anomaly maps, Magnetic contour maps
Mable Eva Alice and Grum areas

243.3 miles @ $40.00 per line mile .....$ 9,732.00

Logistics report EM anomaly maps and magnetic contour maps for
MEA claims

2 1/2 days data compilation and drafting @ $203.75 - 509.38
1 day Geophysicist @ $356.25 - 356.25
$865.63 ..... 865.63

Fa 1-20

Checking and Correcting MEA flight path

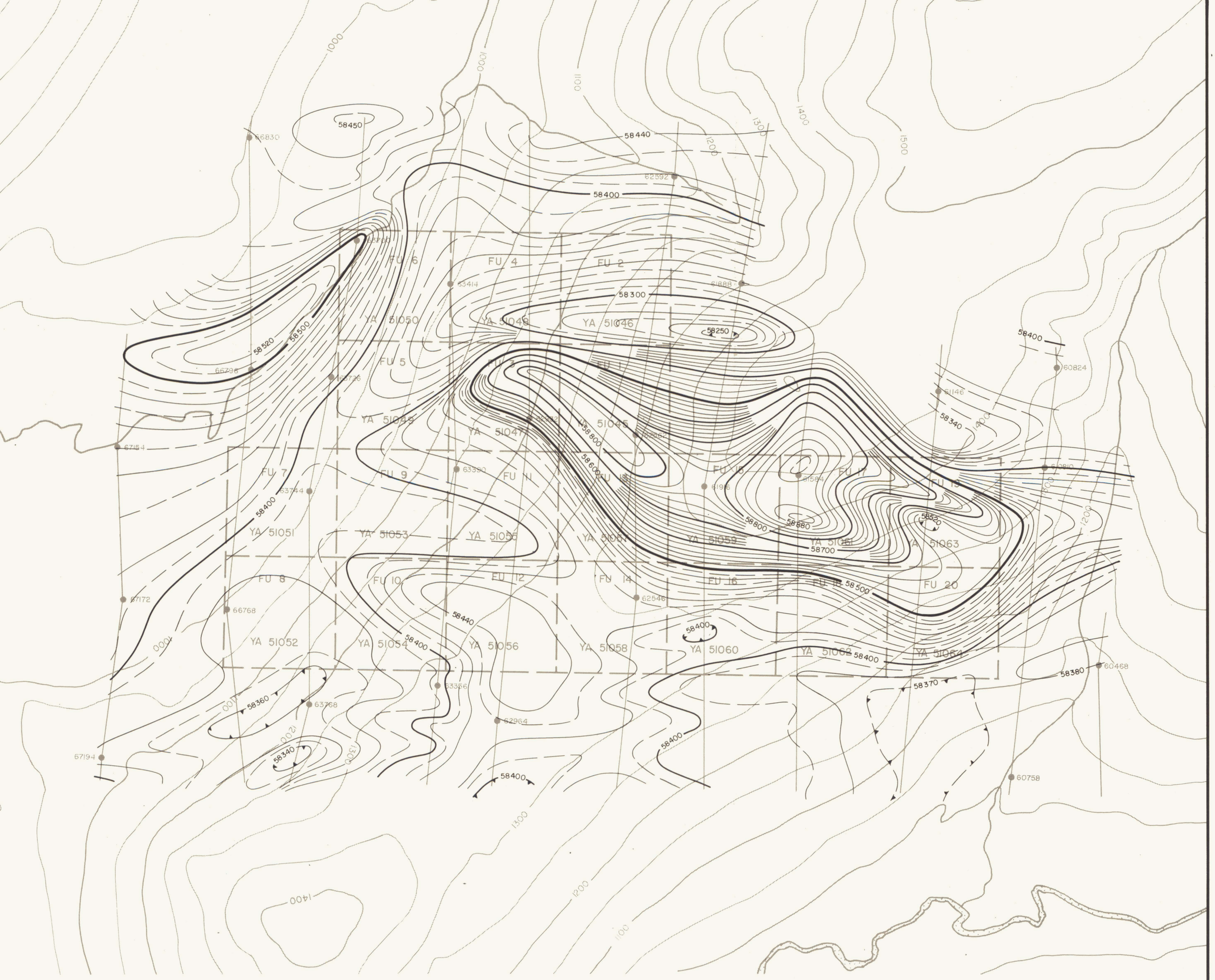
2 days data compilation @ $203.75 - 407.50
1 day Geophysicist @ $356.25 - 356.25
$763.75 ..... 763.75

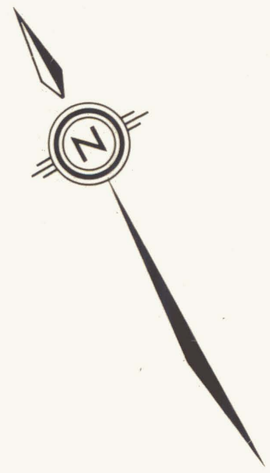
Four additional copies of the final report @ $45.00 each .. 180.00

TOTAL $11,541.38

090904

3M/6/79





ISOMAGNETIC CONTOUR MAP

S C A L E

100 0 100 200 300 400 500

K I L O M E T R E S

MAGNETIC LEGEND

500 GAMMAS	
100 GAMMAS	
20 GAMMAS	
10 GAMMAS	
MAGNETIC LOW	
CONTOUR INTERVAL	10 GAMMAS

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
P. NORGAARD

COMPILED BY geoterrex ltd OTTAWA

GETTY CANADIAN METALS, LIMITED

VANGORDA JOINT VENTURE

YUKON TERRITORY

FU CLAIMS

AIRBORNE GEOPHYSICAL SURVEYS

Project No:	C-449	By:	W.E. BRERETON
Scale:	~~1:5,000~~ 1:10,000	Drawn:	GCS LTD.
Drawing No:		Date:	OCT. 1981

MPH **MPH Consulting Limited**

090904

L-25/1

L-22/1

L-30/1

FU 6 | FU 4 | FU 2

FU 5 | FU 3 | FU 1

YA 51050 | YA 51048 | YA 51046

YA 51049 | YA 51047 | YA 51045

FU 7 | FU 9 | FU 11 | FU 13 | FU 15 | FU 17 | FU 19

YA 51051 | YA 51053 | YA 51055 | YA 51057 | YA 51059 | YA 51061 | YA 51063

FU 8 | FU 10 | FU 12 | FU 14 | FU 16 | FU 18 | FU 20

YA 51052 | YA 51054 | YA 51056 | YA 51058 | YA 51060 | YA 51062 | YA 51064

M-3 0.5/3 ▲230 90Y 100 ⑦

M-2 0.5/1.5 ▲210 70Y 220 ⑮

M-1 0.5/1.0 ▲230 290Y

0.5/2 ▲230

66830 63700 62592 63414 61888 66796 63726 62932 62562 61146 60824 67154 63744 63390 61916 61584 60810 67172 66768 62546 63356 63768 62964 60468 67194 60758

1000 1100 1200 1300 1400 1500

N

ELECTROMAGNETIC ANOMALY LEGEND

- ANOMALY WIDTH AT 1/2 MAXIMUM AMPLITUDE
- ANOMALY PEAK POSITION (no magnetic association)
- COINCIDENT MAGNETIC ANOMALY
- OFFSET MAGNETIC ANOMALY ▲ 50γ
- IN-PHASE AND QUADRATURE AMPLITUDES (p.p.m.) IP/Q ← 50γ
- ALTITUDE OF HELICOPTER (feet) ▲ 220
- CATEGORY 1 ANOMALY . . . IP/Q RATIO . . > 1.0
- CATEGORY 2 ANOMALY . . . 0.5 < IP/Q RATIO ≤ 1.0
- CATEGORY 3 ANOMALY . . . IP/Q RATIO . . ≤ 0.5

INTERPRETATION LEGEND

- ZONE OUTLINE
- ZONE IDENTIFICATION NUMBER . . . M-2
- CONDUCTIVITY – (mhos/metre), CONDUCTIVITY THICKNESS PRODUCT (mhos) . . ⑤
- DEPTH – TO SURFACE (feet) . . . 10
- NEAR SURFACE . . . NS

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — P. NORGAARD

ELECTROMAGNETIC MAP

SCALE

100 0 100 200 300 400 500

KILOMETRES

GETTY CANADIAN METALS, LIMITED

VANGORDA JOINT VENTURE

YUKON TERRITORY

FU CLAIMS

AIRBORNE GEOPHYSICAL SURVEYS

Project No:	C-449	By:	W.E. BRERETON
Scale:	~~1:5,000~~ 1:10,000	Drawn:	GCS LTD.
Drawing No:		Date:	OCT. 1981

COMPILED BY geoterrex ltd OTTAWA

MPH Consulting Limited

090904